

STUDIES ON AUSTRALIAN MARINE ALGAE.

VI. NEW GEOGRAPHICAL RECORDS OF CERTAIN SPECIES.

By VALERIE MAY, M.Sc.,

National Herbarium of N.S.W., Sydney, Australia.

[Read 27th June, 1951.]

Synopsis.

In this paper it is shown that Australian records of *Neomeris dumetosa* refer to both that species and *N. van Bosseae*.

Further, for the first time, *Galaxaura fasciculata*, *G. glabriuscula* and *G. angustifrons* are recorded from Australia; *Sargassum fallax* and *S. flavicans* from New South Wales; *Sargassum cristatum* and *Hypnea ctenomyce* from both north and east Australia; and *Hormophysa triquetra* and *Hypnea cervicornis* from Western Australia.

In addition, a list of Myxophyceae, determined by Dr. F. Drouet, and including algae new to Australia, is presented.

INTRODUCTION.

This paper continues a series recording the occurrence of algae not previously known from Australia, and extending the known geographic range here of other species.

The specimens cited are in the following herbaria: National Herbarium of N.S.W., Sydney (quoted as N.S.W.), the Lucas Collection now held at the above Herbarium (quoted as A.H.S.L.), the herbarium of the Botany School, University of Sydney (quoted as SYD.), the herbarium of the Sydney University Biological Society, held at the Botany School, University of Sydney (quoted as S.U.B.S.), the herbarium of the North Queensland Naturalists' Club, Cairns, Queensland (quoted as N.Q. Nats.) and my own herbarium (quoted as V.M.).

CHLOROPHYCEAE.

NEOMERIS SPECIES IN AUSTRALIA.

Neomeris dumetosa Lamx. has been recorded from Australia. The specimens cited include both *Neomeris dumetosa* Lamx. and *Neomeris van Bosseae* Howe and are as follows:

Neomeris van Bosseae Howe. Collected at Bowen, Qld., by Rainford, in Sept. 1927, May 1928, and again in Jan. 1929 (all in Herb. A.H.S.L.). The first two collections are recorded by Lucas (1927) as *N. dumetosa* Lamx. The specimens agree with Harvey's Exsicc. Alg. Friendly Islands No. 81 from Tonga, cited by Howe (1909) as being *N. van Bosseae*.

N. dumetosa Lamx. Collected at Low Island, Qld., by Perrin and Lucas in May 1931 (in Herb. A.H.S.L.). Recorded by Lucas (1934) as *N. (?) dumetosa* Lamx. The specimens are broken, but the bands of lime formed by cohering primary branches are quite definite.

PHAEOPHYCEAE.

SARGASSUM FALLAX SOND.

New Record for New South Wales.

This species is described and illustrated by J. Agardh (1889); in Australia it is already known from Western Australia and from Queensland.

Locality.	Date.	Herbarium.	Notes.
Collaroy, nr. Sydney, N.S.W.	24.viii.1948	V.M. No. 377	Fertile. Drift,

SARGASSUM FLAVICANS (MERT.) J. AG.

New Record for New South Wales.

This species is known from Queensland and Western Australia and it is now recorded from New South Wales. All specimens quoted were kindly checked by Dr. Tore Levring against original Agardh collections now at Lund, Sweden.

Locality.	Date.	Herbarium.	Notes.
Near Boom, Botany Bay, N.S.W.	14.xii.1944	V.M. No. 235	Trawled.
Mouth of Gunnamatta Bay, Port Hacking, N.S.W.	8.vi.1945	V.M. No. 811	"
Port Hacking, N.S.W.	—,v.1944	V.M. No. 1007	Coll. by R. Bouchier.

SARGASSUM CRISTATUM J. AG.

New Record for New South Wales and Queensland.

Previously known from the west and south coasts of Australia, this species is now recorded, though only as drift, from New South Wales and from Queensland. Specimens quoted were kindly checked by Dr. Tore Levring against original specimens in the Agardh Herbarium now at Lund, Sweden.

Locality.	Date.	Herbarium.	Notes.
Collaroy, nr. Sydney, N.S.W.	7.vii.1944	V.M. No. 274	Drift.
Mooloolabah, Qld.	24.i.1944	V.M. No. 1012	"

HORMOPHYSA TRIQUETRA (L.) KUETZ.

New Record for Western Australia.

In the National Herbarium of New South Wales is a specimen collected by A. H. S. Lucas at Port Stephens, N.S.W., in June, 1909, and identified as *Hormosira ? articulata* (Forsk.) Zan. The label bears the additional information that this identification was confirmed by Mrs. Gepp. This species was recorded from New South Wales by Lucas in 1913 (p. 51). The species is now known from the northern and eastern coasts of Australia.

Osborn (1947) has recorded that the Australian plant known as *Hormosira ? articulata* (Forsk.) Zan. is in fact *Hormophysa triquetra* (L.) Kuetz.

The present is the first record of this species from Western Australia.

Locality.	Date.	Herbarium.
Dongara, W.A.	15.xi.1942	V.M. No. 2689, 2698, 2699, 2700.

MYXOPHYCEAE.

Dr. Francis Drouet, of the Chicago Natural History Museum, has kindly identified a number of specimens of Myxophyceae for me. These include algae new to Australia. As our blue-green flora is particularly poorly studied, and their records often unreliable, it seems wise to publish all of these identifications by Dr. Drouet, which are therefore listed below. An additional list will be included in a forthcoming publication on the Marine Algae of Brampton Island, Qld.

ANACYSTIS AERUGINOSA (ZAN.) DR. & DAILY.

Locality.	Date.	Herbarium.	Notes.
Curl Curl, nr. Sydney, N.S.W.	1.xii.1945	V.M. No. 1158	Black slime on rocks nr. beach.

CALOTHRIX CRUSTACEA BORN. & FLAHL.

Corrimal Headland, N.S.W.	26.iii.1945	V.M. No. 648
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ENTOPHYSALIS CONFERTA (KUETZ.) DR. & DAILY.

Wattamolla, nr. Sydney, N.S.W.	26.viii.1944	V.M. No. 214	On <i>Lyngbya confervoides</i> Gom. Growing in rock pool.
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HORMOTHAMNION ENTEROMORPHOIDES GRUN. EX BORN. & FLAH.

Heron Island, Great Barrier Reef, —.i.1948	V.M. and S.U.B.S. No. A18	
Qld.		
" " " " " "	" "	No. A22
" " " " " "	" "	No. 37

HORMOTHAMNION SOLUTUM BORN. & GRUN.

Floating, 25 miles E. of Bedout Is., 23.x.1945	V.M. No. 2087	From surface scoopnet from C.S.I.R. Fisheries Investigation ship "Isobel". Previously recorded (May, 1946) as <i>Nodularia</i> prob. <i>spumigena</i> Mert.
W.A.		

HYDROCOLEUM LYNGBYACEUM GOM.

Heron Island, Great Barrier Reef, —.i.1948	V.M. and S.U.B.S. No. 36
Qld.	

LYNGBYA CONFEROIDES GOM.

Wattamolla, nr. Sydney, N.S.W.	26.viii.1944	V.M. No. 214	Growing in rock pool.
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LYNGBYA LUTEA GOM.

Corrimal Headland, N.S.W.	26.iii.1945	V.M. No. 648
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LYNGBYA MAJUSCULA GOM.

Adams Beach, Stradbroke Is., Moreton Bay, Qld.	15.i.1944	V.M. No. 930
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LYNGBYA SEMIPLENA GOM.

North Curl Curl, nr. Sydney, N.S.W.	21.vii.1947	V.M. No. 2392	On rocks near beach. Prevalent.
Curl Curl, nr. Sydney, N.S.W.	1.xii.1945	V.M. No. 1158	Black slime on rocks nr. beach.

LYNGBYA SORDIDA GOM.

Headland, Palm Beach, nr. Sydney, N.S.W.	26.xi.1947	V.M. No. 2470	Small form.
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RIVULARIA FIRMA WOMERSL.

Twofold Bay, Eden, N.S.W.	24.i.1946	V.M. No. 2031	Coll. by E. Pope.
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SKUJAELLA HILDEBRANDTII (GOM.) J. DE TONI.

Joseph Bonaparte Gulf, W.A.	13.ix.1949	V.M. No. 2817	Surface trawl.
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RHODOPHYCEAE.

GALAXAURA SPECIES.

The recent appearance of Chou's two papers (1944, 1945) on Pacific species of *Galaxaura*, containing keys to the species, assists greatly the identification of specimens belonging to this difficult genus.

Chou, dealing with the Pacific species, records only five species as from Australia, viz., *G. spathulata*, *G. arborea*, *G. umbellata*, *G. oblongata* and *G. elongata*. Svedelius (1945) gives important descriptions and comparisons of species, and records also from here *G. fastigiata* and *G. obtusata*, if indeed the latter differs from *G. umbellata*.

The following three species are now also recorded from Australia, while the additional occurrence of one of these species, and of one other species, are to be recorded in a forthcoming paper on the Marine Algae of Brampton Island, Qld.

GALAXAURA FASCICULATA KJELLM. EMEND CHOU.

Known from the Celebes and Philippine Islands, Tonga, Japan, Malayan Archipelago, etc.

Locality.	Date.	Herbarium.	Notes.
Whitsunday Reef, Hayman Island, Qld.	—viii.1946	V.M. No. 2284 also SYD.	Coll. Mrs. Bingham.
Low Island, N. Qld.	—v.1931	N.S.W.	} Coll. F. Perrin and A. H. S. Lucas.
" " "	—vi.1931	" "	

GALAXAURA GLABRIUSCULA KJELLM. EMEND CHOU.

Known from Tahiti, Hawaiian Islands, Java and the Bonin Islands.

Locality.	Date.	Herbarium.	Notes.
Coral Reef, Green Is., off Cairns, N. Qld.	30.viii.1936	V.M. & N.Q. Nats. No. 3519	Coll. by H. Flecker.
Arkhurst Reef, Hayman Is., Qld.	—viii.1946	V.M. No. 2283 also SYD.	
Cape Tribulation, 30 m. south of Cooktown, Qld.	18.xi.1947	V.M. & N.Q. Nats. No. 12117	

GALAXAURA ANGUSTIFRONS KJELLM. EMEND CHOU.

This species is known from Brazil and Java, but the present is the first record of it from Australia. The species has most likely been treated in Australia as *Brachycladia marginata*, under which name *G. arborea* and *G. spathulata* also have been included. Chou has illustrated and described these three species, and suggests that *G. intermedia* and *G. spathulata* may be the corresponding sexual and non-sexual phases of the same plant. It seems likely that *G. angustifrons* and *G. arborea* likewise correspond.

Locality.	Date.	Herbarium.	Notes.
Collaroy, nr. Sydney, N.S.W.	19.xii.1944	V.M. No. 460	Drift.
" " "	7.vii.1944	V.M. No. 271	"
Newport " "	16.xi.1944	V.M. No. 459	Growing in pool under over-hanging rock.
Barrenjoey Hd., Palm Beach, N.S.W.	25.ii.1945	V.M. No. 513	Below L.T.L.

HYPNEA CENOMYCE J. AG.

New Record for North and East Australia.

Previously known from Western Australia and Tasmania in Australia and from Lord Howe Island, the present is the first record of this species from N.S.W. or Queensland.

Dr. Tore Levring kindly checked my specimens No. 918 and 674 with original Agardh material at Lund, Sweden, and he reports the identification as correct.

This species has a more compact habit than other local species of this genus; it is relatively coarse, much branched towards its apices and it occurs on ocean headlands, while our common *Hypneas* are estuarine in habitat.

This is the species of *Hypnea* referred to (May, 1948, p. 35) as having been confused sometimes with a species of *Gracilaria* (see below).

Locality.	Date.	Herbarium.	Notes.
Rock Island, Long Reef, nr. Sydney, N.S.W.	8.xii.1944	V.M. No. 493	Sheet B is tetrasporic.
Far out rocks, Newport to Bilgola Headland, nr. Sydney, N.S.W.	3.xi.1945	V.M. No. 918	
Little Beach, Narrabeen, nr. Sydney, N.S.W.	13.xii.1947	V.M. No. 2484	
Extra L.T. Level, Whale Beach Headland, nr. Sydney, N.S.W.	29.xii.1947	V.M. No. 2501	Few tetraspores.

Locality.	Date.	Herbarium.	Notes.
Amity Beach, Stradbroke Is., Moreton Bay, Qld.	1.xii.1943	V.M. No. 674	Tetrasporic.
Green Is., N. Qld.	23.viii.1936	V.M. & N.Q. Nats. No. 2191	Coll. by A. B. Cumings. Tetrasporic.
Double Island Reef, N. Qld.	14.ix.1947	V.M. & N.Q. Nats. No. 11448	Coll. by H. Flecker. Tetrasporic.
Low Island, N. Qld.	—vi.1931	A.H.S.L.	Coll. by F. Perrin and A. H. S. Lucas. Specimen labelled " <i>Gracilaria</i> ".
Michaelmas Cay, off Cairns, Qld.	—vi.1926	A.H.S.L.	Coll. by T. Iredale and G. Whitley. Specimen recorded (Lucas, 1927, p. 155) as <i>Gracilaria</i> <i>taenioides</i> J. Ag.

HYPNEA CERVICORNIS J. AG.

New Record for Western Australia.

This species is described and illustrated by Tanaka (1941, p. 240-2, fig. 13); it differs from our common *H. Valentiae* (Turn.) Mont. in the absence of a persistent main axis and in the great density of the lateral spinous branches. This species is widespread in the warm Pacific and is already recorded from Queensland; the present records extend its known range in Australia to Western Australia also.

Locality.	Date.	Herbarium.	Notes.
Geraldton, W.A.	—vii.1928	N.S.W.	Coll. by A. H. S. Lucas.
Rottneet Is., W.A.	—viii.1928	N.S.W.	"
On beach, North Is., Abrolhos Group, W.A.	6.xii.1945	V.M. No. 2230	Coll. by G. P. Whitley. Tetrasporic.

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